Partnerships and other practical measures to manage the risk of disease transmission through air travel

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Introduction to ICAO

Overview of CAPSCA

Aviation/ Public Health interface

Partnerships, practical measures and tools

ICAO public health projects

Take - home message:
This is a complicated issue, involving experts in different specialties which cannot be addressed in silo’s – it needs multi-sector multi-partner collaboration, building an effective network, sharing of information, applying best-practices, regular scheduled meetings and joint practical exercises.
• Chicago Convention in 1944
• An independent organization ("specialized agency") of the United Nations
• Promote the safe and orderly development of international civil aviation
• Development of Standards, Recommended Practices and guidance material
• Assistance with implementation
• Coordination of global aviation initiatives
• Coordination and implementation of international legal instruments

192 Contracting States
• Article 14 of the Chicago Convention

• ‘Each contracting State agrees to take effective measures to prevent the spread by means of air navigation of cholera, typhus (epidemic), smallpox, yellow fever, plague, and such other communicable diseases as the contracting States shall from time to time decide to designate....
• Collaborative Arrangement for the Prevention & Management of Public Health Events in Civil Aviation
• Initial focus – prevention of transmission of communicable diseases
• Scope expanded to other public health emergencies – e.g. radiation, chemical events, environmental disasters etc.
• Objectives:
  – Assist States with implementation of ICAO SARPs & WHO International Health Regulations
  – Sustainability of travel, trade & tourism
  – Additional responsibility toward passenger (end-user) and aviation personnel (occupational exposure)
**International**
- IHR
- SARPs - Annexes 6, 9, 11, 14, 18 & PANS-ATM (ICAO audit)
- Global Health Security & Sendai Framework for Disaster Risk Reduction

**National**
- Public Health Emergency Contingency Plan
- National Aviation Regulations with standards related to public health
- National Aviation Plan for a Public Health Emergency
- Airport (Point of Entry) Public Health Emergency Contingency Plan

**Aviation**
- Aerodrome Emergency Plan and Aerodrome Manual (including public health emergencies)
- Air Traffic Services (ATS) contingency plan (including public health emergencies)
- Aircraft Operators Procedures for notification and management of suspected public health risk on board an aircraft
- Airline Emergency Response Plan (including public health emergencies)
• Guidance and tools to States and stakeholders
• Assistance Visits to States and Airports
• Meetings, Seminars & Workshops
• Training workshops and exercises
• On-line training course
• CAPSCA focal point
• Web site reference information source
• Consultation and needs analysis
• Working Group
• Meetings and consultation
  • Mapping the spread of VBD by international travel
• Disinsection methods
• Sharing of information
• Joint missions - CAPSCA & JEE
• Collaboration on publications and emergency communication
• Training
  • On-line CAPSCA training
  • Public health event management in the aviation sector
### Partners for collaboration

#### Agencies
- WHO
- ICAO
- CDC
- ECDC
- Other United Nations
- Inter-governmental

#### States
- Dpt. Health
- Dpt. Transport
- Immigration
- Security
- Travel & Tourism
- Military

#### Aviation & Medical
- Aviation
- Aviation Medicine
- Public Health
- Other specialties
- Organizations & Societies
- Air ambulance

#### Other
- Universities
- Research institutions
- Training Organizations
- Commercial business
- Media
Aviation assists public health authorities
- Provide information to manage the event
- Prevent transmission of disease
- Manage illness in airport or on board aircraft
- Maintain transport links to manage the event
- Screening, quarantine and contact tracing
- Air ambulance transport

Public health events affects aviation transport
- Absence of safety critical personnel = an aviation safety risk
- Additional administrative burdens
- Additional technical requirements
- Flight delays, re-scheduling, restrictions, cancellations
• Aerodrome Emergency Plan (include Public Health events)
• Notification to the public health authority at destination (PANS-ATM)
• Information about travellers itinerary, destination
• Inspection of baggage, cargo, containers, conveyances, goods, postal parcels and human remains
• Vector control
• Joint training
• Joint exercises
• Meetings

APPENDIX 4. CERTIFICATE OF RESIDUAL DISINSECTION

DECLARATION OF HEALTH

Details of disinfecting and sanitary treatment (place, date, time, method) during the flight. If no disinfecting has been carried out during the flight, give details of most recent disinfecting.

Signed, if required, with time and date

Crew member concerned
• Access to medical services and transport
• Traveller screening (entry or exit) & non-invasive medical examination
• Inform travellers of action to take if they become ill
• Yellow fever vaccination
• Arrangements for isolation/ quarantine
• IATA Guidelines on suspected communicable diseases for all staff involved (cabin crew, passenger agents, cleaning crew, maintenance crew, etc.)
• IATA Emergency Response Plan, Public Health Emergency, A Template for Carriers
• Airline procedures for aircraft disinsection and aircraft disinfection
• Airline procedure for PAN-ATM
• Request for passenger contact tracing
Notification of disease on board an aircraft

ICAO Aircraft General Declaration
- Declaration of Health (signs/symptoms)
  (ICAO Annex 9, Appendix 1 & IHR (2005) Annex 9)

- Aircraft Call sign (ID)
- Dep. Aerodrome
- Dest. Aerodrome
- Est. Time Arrival
- No persons on board
- No of suspect cases
- Nature of health risk

- Airport Operator
- Public Health Authority
- Other agency(ies)

Voice or data link e.g. AFTN

Aircraft Operator
(or handling agency) at destination aerodrome incl. ground-based medical services provider (if available)

Via local procedure (Aerodrome Emergency Plan)

*AFTN = Aeronautical Fixed Telecommunication Network
Voluntary information sharing for risk assessment concerning vector control practices

Managed by ICAO and shared with:
- Civil Aviation Authorities
- Airports
- General Public

www.icao.int/crr/Pages/Airport-Vector-Control-Register.aspx
Airport Vector Control Register

Level 1 - Public:
This report will allow you to see the location of airports that have completed the Vector Control Measures Registration.
(Please refer to [geolocation example].)

Level 2 - Airports and respondents:
You will be able to access statistics collected from the data received.

Level 3 - States:
You will be able to access geolocations, statistics and detailed analytical reports for each airport.

Vector control measures

6. Is the airport a designated airport in terms of the International Health Regulations (IHR)?
   - Yes: 45 (71.4%)
   - No: 18 (28.6%)

7. Does this airport have a vector control programme?
   - Yes: 63 (68.3%)
   - No: 10 (15.9%)
   - Don't know: 10 (15.9%)

8. Who is the "Competent Authority", as defined in IHR, that is responsible for ensuring the implementation of a vector control program at this airport?
   - National Department of Health: 26 (41.3%)
   - National Department of Transport: 4 (6.3%)
   - Local municipality Health Department: 14 (22.2%)
   - Non governmental - Managed by Private Contractor: 3 (4.9%)
   - I don't know: 9 (14.3%)
   - Other: 7 (11.1%)
Major international air traffic originating from Madagascar in 2016

Plague outbreak in Madagascar
<table>
<thead>
<tr>
<th>Origin Airport</th>
<th>Transfer 1 Airport</th>
<th>Destination Airport</th>
<th>Average weekly passengers</th>
<th>Fraction</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ivato - Antananarivo</td>
<td>Sir Seewoosagur Ramgoolam - Port Louis</td>
<td>685</td>
<td>5.6%</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Ivato - Antananarivo</td>
<td>Charles de Gaulle - Paris</td>
<td>632</td>
<td>5.2%</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Ivato - Antananarivo</td>
<td>Roland Garros - St Denis</td>
<td>626</td>
<td>5.1%</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Ivato - Antananarivo</td>
<td>Prince Said Ibrahim - Moroni</td>
<td>270</td>
<td>2.2%</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Ivato - Antananarivo</td>
<td>Dzaoudzi Pamandzi</td>
<td>189</td>
<td>1.5%</td>
<td>12</td>
<td></td>
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<tr>
<td>Ivato - Antananarivo</td>
<td>Paris-Orly</td>
<td>166</td>
<td>1.4%</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Ambotovy</td>
<td>Dzaoudzi Pamandzi</td>
<td>163</td>
<td>1.3%</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Ivato - Antananarivo</td>
<td>Roland Garros - St Denis</td>
<td>157</td>
<td>1.3%</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Ivato - Antananarivo</td>
<td>OR Tambo - Johannesburg</td>
<td>141</td>
<td>1.2%</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Ivato - Antananarivo</td>
<td>Jomo Kenyatta - Nairobi</td>
<td>131</td>
<td>1.1%</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Toamasina</td>
<td>Roland Garros - St Denis</td>
<td>127</td>
<td>1.0%</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Fascone - Nosy Be</td>
<td>Dzaoudzi Pamandzi</td>
<td>113</td>
<td>0.9%</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Ivato - Antananarivo</td>
<td>Seychelles - Mahe Island</td>
<td>112</td>
<td>0.9%</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Arrachart</td>
<td>Dzaoudzi Pamandzi</td>
<td>104</td>
<td>0.9%</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Ivato - Antananarivo</td>
<td>Seychelles - Mahe Island</td>
<td>104</td>
<td>0.9%</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Fascone - Nosy Be</td>
<td>Charles de Gaulle - Paris</td>
<td>98</td>
<td>0.8%</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Ivato - Antananarivo</td>
<td>Sir Seewoosagur Ramgoolam - Port Louis</td>
<td>96</td>
<td>0.8%</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Fascone - Nosy Be</td>
<td>Hong Kong Kai Tak</td>
<td>92</td>
<td>0.8%</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>Fascone - Nosy Be</td>
<td>Malpensa - Milan</td>
<td>89</td>
<td>0.7%</td>
<td>39</td>
<td></td>
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<tr>
<td>Ivato - Antananarivo</td>
<td>Marseille Provence</td>
<td>77</td>
<td>0.6%</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Ivato - Antananarivo</td>
<td>Marseille Provence</td>
<td>75</td>
<td>0.6%</td>
<td>42</td>
<td></td>
</tr>
</tbody>
</table>

**Plague Madagascar**
Real time data as from 21 Aug 2017
# Flight Information App

## Indicators Comparison

Select a day:
- 2018-02-26

Compare with the week start from:
- 2018-02-19

The Day 2018-02-26 compare to the week start from 2018-02-19

<table>
<thead>
<tr>
<th>Arrival Country or Territory</th>
<th>Flight Number</th>
<th>Country or Territory Number</th>
<th>Flight Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>3</td>
<td>16 (+0)</td>
<td></td>
</tr>
<tr>
<td>Ethiopia</td>
<td>3</td>
<td>16 (+1)</td>
<td></td>
</tr>
<tr>
<td>UAE</td>
<td>3</td>
<td>16 (+0)</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>2</td>
<td>16 (+0)</td>
<td></td>
</tr>
<tr>
<td>Egypt</td>
<td>2</td>
<td>16 (+0)</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>2</td>
<td>16 (+0)</td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>2</td>
<td>16 (+0)</td>
<td></td>
</tr>
<tr>
<td>Togo</td>
<td>1</td>
<td>26 (+1)</td>
<td></td>
</tr>
<tr>
<td>Ghana</td>
<td>1</td>
<td>26 (+0)</td>
<td></td>
</tr>
<tr>
<td>Ivory Coast</td>
<td>1</td>
<td>26 (+1)</td>
<td></td>
</tr>
</tbody>
</table>

Showing 1 to 10 of 16 entries

## NOTAMS Information

- **A0118/18 - GMFF (Morocco)**
  - Period: 2018-02-26T00:00:00.000Z - 2018-05-27T00:00:00.000Z
  - Q-Code (EAHW):
    - **BUILDING WORK OF PARKING STAND ISOLATED AT 350M EAST OF SHOULDER STRAP L PRESENCE PERSONS AND EOFT. CAUTION RECOMMENDED.**
    - Created: 26 Feb 2018 10:29:00
    - Source: GMMYNYX

- **A0070/18 - FLFI (Zambia): Not listed Plain language**
  - Period: 2018-02-24T00:00:00.000Z - 2018-05-24T00:00:00.000Z
  - Q-Code (XXXX):
    - In view of the ongoing Ebola outbreak, Zambian Civil Aviation Authority is requesting all airmen to report medical sts of their pax for all inbound flights and to comply with health screening of pax entering the Zambian airspace.
    - Created: 24 Feb 2018 05:29:00
    - Source: FLKKNYX
Outcome: WP/84
Engage with the World Health Organization and engaging the CAPSCA programme to:
- Develop performance-based criteria to evaluate all disinfection methods, including non-chemical means of disinfection
- Develop recommendations regarding non-chemical disinfection methods
- Develop guidance on the components of a scientifically based risk assessment model for Contracting States to use in determining whether to employ vector control measures that include but are not limited to aircraft disinfection
- Resolution accepted by Assembly

Outcome: WP/199
Conduct research on the safety-related and communicable disease aspects of air ambulance operations;
Conduct feasibility of developing air ambulance SARPs and a data collection and analysis system
• Is it necessary?
• Is it effective?
• Chemical?
• Non-chemical?
• Performance standards?
• Assess residual risk for spread of vectors at an arrival airport

• Methodology
  – Step-based approach with different layers
  – Prevailing risk at airport e.g. vector distribution maps
  – Risk modification components e.g. vector control at airport
  – Request departure airport for additional information
  – Request operator for additional measures e.g. aircraft disinsection
  – Determine acceptability to the State - State sovereignty and national requirements
  – Promote dialogue between States
  – Introduce mitigation measures at the arrival airport
1. Region Indicators

1.1 Is the region where the airport is located known to have targeted vectors based on vector map (http://vectormap.nhm.ku.edu/vectormap)?

1.2 Is it the relevant season and climate of the targeted vector in the region where the airport is located?

1.3 Is the region where the airport is located under any vector-borne disease advisory and/or the WHO published list where disinsection or vector control are recommended?

1.4 Has there been a vector-borne disease outbreak in this region in the past?

1.5 What is the volume of flights in the region where the airport is located based on the Air Connectivity Index[1]?

1.6 Is the absence of targeted vectors confirmed through the vector surveillance programs?

2. Surveillance Indicators

2.1 Does the airport vector surveillance program use vector collection devices/traps that are approved by the scientific community as being appropriate for the targeted vector?

2.2 Is the vector surveillance conducted by trained airport/government personnel or approved contracted services?

2.3 Are the results of the vector surveillance used to develop and implement airport vector control programs?

2.4 Are the results and associated risks from vector surveillance communicated to users and management of the airport?
3. Departure Airport Indicators

3.1 Does the departure airport have routes to non-endemic regions of targeted vectors or international operations that include:

3.1.1 Scheduled passenger operations?

3.1.2 Cargo operations?

3.1.3 Non-Scheduled passenger operations?

3.1.4 Military or state operations?

3.2 Does the airport provide approved chemical or mechanical disinsection services for aircrafts?

3.3 Are the jetway/walkway/stairway/door to the aircraft closed when it is not in service?

3.4 Are the gates/jetways/walkways/stairways equipped with mechanical disinsection capabilities?

3.5 Is the departure airport able to provide minimum distance of 400m from the nearest Point of Entry (PoE) or designated parking position that can isolate aircrafts from vector threats?

3.6 Is the airport vector control program implemented and managed in accordance to ongoing presence of target vectors and environmental change?

4. Arrival Airport Indicators

4.1 Is the arrival airport able to provide minimum distance of 400m from the nearest Point of Entry (PoE) or designated parking position if arriving aircraft may be carrying possible infectious agents or vectors in reference to IHR (2005) Annex 5.1?

4.2 Is the arrival airport’s vector control program implemented and managed in accordance to possible targeted vectors threats and environmental change?

4.3 Are there alternative airports in the region if diversion is necessary as per IHR (2005) Annex 5.7?

4.4 What score did the region of the arrival airport receive for â€œPoE.1 Routine capacities are established at PoEâ€ in reference to WHOâ€™s IHR (2005) Joint External Evaluation?"
<table>
<thead>
<tr>
<th>#</th>
<th>5. Conveyance Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Does the operator utilize residual disinfection consistent with WHO or government regulations?</td>
</tr>
<tr>
<td>5.2</td>
<td>Does the operator have a guideline or policy for cargo and luggage vector-control practices?</td>
</tr>
<tr>
<td>5.3</td>
<td>Does the operator leave aircraft entry points open when airframe is parked and not in preparation for operation?</td>
</tr>
<tr>
<td>5.4</td>
<td>Does the operator use self-closing screens for passenger entries?</td>
</tr>
<tr>
<td>5.5</td>
<td>Does the operator use maintenance facilities at the departure airport? IF yes:</td>
</tr>
<tr>
<td></td>
<td>5.5.1 Does the maintenance facility utilize chemical or mechanical disinfection when servicing the aircraft?</td>
</tr>
<tr>
<td></td>
<td>5.5.2 Does the maintenance facility conduct repair in a closed hangar?</td>
</tr>
</tbody>
</table>
Thank you for your attention

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